

In an earlier day, reservation residence required an adjustment to a desert environment. This being the case, towns were always near a source of water and near acceptable pasture and flood water farm land. At the present time, with wage work becoming increasingly important, in fact essential to the great majority of Indians during some period of the year, residence near a source of wage work is also important.

Another change in Papago life has also been noted. As recently as thirty or forty years ago community needs were simple and most Papago villages were self-sufficient. Today this is true only for Sells. Other villages look elsewhere for one or another of the essential community services: shopping, education, health services, religion, government, and the like. These needs are met in a slightly different fashion in each of the nine districts.

Baboquivari District. Although the districts -- as political subdivisions of the main reservation -- were established in 1937, long after the founding of most villages, certain internal district relationships have been built through time which are now important. In Baboquivari district Topawa serves as the voting place in tribal and district elections. It is also the center for the education of Catholic youngsters, and is the ceremonial center for Catholic activities throughout the reservation. Native ceremonial activities and traditional folk medicine centers

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361 Some other localities are used temporarily or
221 seasonally as cattle and farm camps and others are used
[222] during the season of saguaro fruit harvest. It has been
noted that in some instances scattered settlements are also
used as "vacation" homes.

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The Papago Population. The aspect of the Papago
population most important to this study is its small size,
[162] relative to the large area it occupies. It is scattered
over the entire Reservation in small villages, none of more
than two or three hundred people with the exception of Sells,
the largest town, where about 650 reside (Table 5). Never-
[433] theless, because the resources of the region are limited,
[182] the relatively small population is supported only inade-
quately, and its exact size is of importance in evaluating
the relationships between the people and their resources.

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According to the count completed by the Bureau
of Ethnic Research for the year 1959, which will be reported
on in detail below, the total population of the main reser-
vation was 4,166, with 628 additional Papagos on the San
Xavier and Gila Bend reservations and 6,981 living else-
where or with residence unknown, for a total living Papago
population of 11,775.

The main reservation population of 4,166 compares
with a total of 5,313 Papagos located on the reservation
in 1914, according to a count made by Herbert V. Clotts
(Clotts 1915). It must be assumed that there were rela-
tively few Papagos off the main reservation in 1914 and

cattle were held in her two districts, and that the total cattle population on the reservation was about 25,000.

It is reasonable to assume from this and other evidence that the period of heavy grazing on the reservation was between 1914 and 1937. Drought conditions in the middle 1930's caused many cattle and horses to die on the range and forced Indian owners to sell more than usual numbers. Cattle and horse sales, in fact, more than doubled between 1935 and 1939. It was also during this time that the first serious attempts were made by the Bureau of Indian Affairs to introduce better range management practices and to influence the Indians to run fewer head of cattle of better quality. Pressure to reduce the number of horses, especially horses running wild on the reservation, also had an effect and, in addition, the number of horses was reduced because of a dourine infection which was not brought under control until the late 1940's.

The steady reduction in stock numbers was revealed in a ten-year comparison for the period 1949 to 1959 (Metsler, 1960, p. 55). The data also provides information on the size of the Papago ranges and the number of acres available per animal unit. See Table 12.

families that hold cattle on the three reservations has been estimated at between 400 and 500. Metzler summarizes the economy of stock raising as follows (Metzler, 1959, p. 57):

"The function of cattle for most families is the same as that of a reserve account in a bank. The cattle are not sold until other sources of income have been exhausted, then enough cattle are marketed to meet cash needs of the family until other sources of income again become available. When they have no more cattle they will start to sell off their horses."

It should be added that cattle raising is more than merely an economic enterprise. The Papago and their cattle may be compared to the Navajo and their sheep. In both cases a way of life has been developed which becomes relatively meaningless without livestock and the work of caring for animals on the open range in isolated desert areas.

The meaning of stock raising in the total economy of Papago family life can be assessed with fair accuracy because of the records that must be kept in connection with the tribal assessment of a 3 per cent tax on the value of all livestock sold from the reservation. In 1962 the tribe collected a total of \$19,631.90 in taxes on a gross Indian income of \$654,397 from stock sales. For a number of years sales have totalled about this amount, occasionally running higher. Owning from one to ten head of stock, most families have incomes of less than \$400 per year from ranching. Probably no more than 40 families, according to Metzler, depend entirely on cattle sales for their yearly income. In keeping

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233 with this estimate Robert Roether, reservation cattle buyer,
● 433 is of the opinion that from 25 to 30 families own more than
434 100 head of breeding cows. Both of the above estimates are
422 higher than the estimate provided by the Bureau of Indian
Affairs.

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433 Agriculture. Life on the Papago reservations has
always depended, and still depends, upon multiple sources of
family subsistence and income. The original pattern was a
combination of hunting, gathering, and flood water farming.
After 1700, hunting and gathering gradually gave way to
cattle raising which, in combination with flood water farm-
ing, provided subsistence and some cash income. Farming is
now declining and there is being established a new combina-
tion: cattle raising and wage work.

241 Flood water farming still persists, however, in
spite of periodic drought, back-breaking work, and low
yields. Wherever it occurs today it is usually an activity
[462] of older men who raise a small plot of corn, beans, squash,
[887] and sometimes winter wheat, to supplement their income from
[434] cattle, thus making it possible to live on the reservation
[182] the year around and according to the traditional Papago way
of life.

Cash crop or commercial farming, as will be seen
later, have not appealed to the Papago since competition
from non-Indian farmers and the lack of running water require

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178 farmed is now 3,930 acres. In other words, only 10 per cent of the land formerly used is now being put in crops.

It may be assumed from our survey, and from other evidence, that this situation holds true for the entire reservation. A current estimate of about 1,000 acres in flood water farming is probably fairly accurate.

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178 The reduction in acreage is not surprising. The thing that is difficult to understand is that there should still remain two or three hundred individuals willing to endure the hardships and the failures inherent in flood water farming. In 1914 there were few off-reservation jobs, and fewer Indians willing to leave the reservation in search of work. Farming, however unrewarding, was required to sustain life. This situation is no longer true except for some men, usually the older men, who cannot, or do not, participate in off-reservation wage work.

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311 Irrigated Farming. During calendar year 1962, Papago Indian farmers grew crops on 740 acres of irrigated land on the main reservation at Chuichu and on 45 acres of irrigated land at San Xavier. Gross income was \$94,755, [434] [248] more than half from approximately 120 acres planted in cotton.

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178 Since 1952 the number of acres farmed by Indians at Chuichu increased from 530 to 1,360 (1957) but has now

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decades of tutelage by the Indian Bureau and tourists. And more Indians were affected than ever before—a quarter of the hitherto ultra-isolated Navahos; all the men in some Pueblos in New Mexico. Defense workers and servicemen learned new standards of living and new modes of behavior.

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At the war's end they returned to inadequate reservation lands. For Indian population in the Southwest had leaped far beyond the human carrying capacity of the reserves—small remnants of original Indian territory held in trust for them by the government. While many smaller tribes stabilized at their size of 50 years ago, larger groups are rapidly increasing even though Anglo immigration submerged the total Indian minority ever deeper.

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At the same time the Southwestern Indian land base deteriorated in quality so it could support fewer people, because of overgrazing, erosion, and other causes.

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"Faced by these increasing difficulties, many Papago families began regularly to migrate off the reservation to pick cotton and engage in other seasonal wage work during the winter months, while they retained permanent homes in their 'fields' villages where they spent the remainder of the year farming and herding. In time a new dual residence and economy pattern developed among the Papago. By reinforcing the rhythmic balance of traditional culture and personality structures the new pattern apparently met, to a certain extent, both immediate economic needs . . . and deep-rooted socio-psychological needs for security and opportunity for constructive development."²

²Thompson, 1951, p. 71.

[131] A few Desert People live on a tiny 10,235 acre
[657] reserve at Gila Bend set aside in 1912 by Executive
[312] Order--leaving the village outside the reserved
[311] area! Some of this land could once be irrigated
by surface flow from the Gila River which is now
impounded far upstream, and none is farmed now.

A few Papagos live on the Maricopa Indian
Reservation upstream under the Pima Indian Agency
on lands partially irrigated by pumps tapping the
underground flow.

The greatest number of the Desert People live
on the 2,773,896 acre Papago Indian Reservation
running north from the Mexican border within a few
miles of the Southern Pacific Railroad. Only a few
hundred acres at the northern tip of the reserve
projecting into the Gila River valley can be irri-
[133] gated by pumped water. There is no running surface
stream in the entire area. An irrigation of sorts
[43] using flood waters from late summer rains has been
practiced for unknown centuries by the Desert
People to raise subsistence crops to supplement
the surprising variety of foods gathered from the
desert plants or hunted. Water under this reserve
is too deep and too scarce for economic irrigation.
[185] "To many Papago a good field, enough cattle to
provide occasional meat and money, a few horses
for prestige, and plenty of rain would make the
ideal combination."

¹Joseph, Spicer & Chesky, 1949, p. 59.

800 After the Desert People, the Indians most commonly employed on farms in Pima and Pinal counties were Yaquis. Of 65 non-Papago Indian cotton pickers enumerated in this study, 42 were Yaquis (and the number actually employed was of course much larger. Other tribes represented in the 1953 cotton harvest force were Choctaw (9 counted in this study), Cherokee (5), Pueblo (5), Pima (3--however many hundreds of Pimas work in the Salt River valley), and Sauk (1). In Pima county about a fifth of the cotton farmers employ Yaquis, some hiring both Papagos and Yaquis.

PAPAGOS

464 The approximately 2,000 Desert Peoples harvesting cotton in 1950 were good pickers. Employers are generally agreed Indians pick the cleanest cotton, which means money in the grower's pocket. (Lint grades better if it is not stained by leaves and dirt; and the gins penalize for too much trash) Employers are also generally of the opinion that Indians are slower than other pickers, with Yaquis picking faster than Papagos. Usually they feel slower speed about offsets cleaner picking. Actually, it is doubtful whether Indians are any slower. Papago men seem to average over 200 pounds of upland cotton per day.¹ This is probably quite near the average of all pickers. The average amount picked by one man day's labor in Pinal county in a 1948 study was 188 pounds.² Papagos interviewed by the writer varied in picking speed from 128 pounds per day to 300. Indian pickers seem to set themselves a steady pace which can be maintained through the day. Other pickers tend to pick fast early in the day, bringing in heavy sacks on their first weigh-in, but slowing up during the day as they become fatigued. This writer feels employers usually remember the first weight of the day, so conclude Indians are slower pickers--seldom do employers keep track of pickers' daily totals.

¹ 8 of 26 Pima county farms hiring Indians hired Yaquis; these 8 were 23% of those studied (70% of total cotton acreage in the county).

² Based on data from 8 men who knew their picking speed, ranging from boys to middle age, 6 working in Pinal and 2 in Pima county. They averaged 211 pounds per day each.

³ Ballantyne, 1950.

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796 leave for two or three weeks or a month. However, the usual pilgrim to Magdalena, or Chushiy Guwak at this time loses only one work-week, and those going to San Xavier less. Secondary fiestas in point of time lost from work are the fiesta of St. Francis in December at San Xavier and All Souls at the beginning of November.

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221 The graph of migration to the fields shows that some families start picking as late as November. If they come in the middle of the month and work until the first of the year at average speed, the man and wife can earn about \$280. More than likely they will go to San Xavier December 2, take time off at Christmas, and work only 8 weeks, earning perhaps \$230 for their abbreviated season.

Families coming to work during October make more, of course. Those starting to pick in September approach the maximum possible for harvesters to earn. Assuming the worst possible about a family, that the husband loses 2 days each week from hangovers, making only \$21 a week, and that the family leaves for Magdalena the first of October and goes home to the reservation until after All Souls, and then spends a week away from work at San Xavier's Saint's Day in December, having come to work the second week in September to begin with, husband and wife should each make about \$200, a total of some \$400 for the worst conceivable family.

A family which starts work about mid-September, loses the first week of October at fiesta, and spends a week at home sometime during picking season is apparently an average family. It would receive approximately \$335 during the season.

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433 The picture for American-Egyptian cotton is somewhat different from upland. The bolls are smaller and sharper, and the lint harder to pick out. Papago men and women seem to pick this type cotton at about the same speed. Both sexes average around 100 pounds per day.¹

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[221] At the rate in 1950 of \$5.00 per hundred pounds, a husband would make \$27.50 for a 5½ day week. If his wife picked 3½ days, the team would earn \$45, and if she picked every day, they would receive \$55 for their week's work. The "average" family picking American-Egyptian cotton from

¹Admittedly this figure is based on a very small sample, only 2 men and 2 women.

ECONOMIC NECESSITY

Basic reasons Papagos Work--

433 In a rural area, there are not many choices of
463 livelihood--farming, mining, lumbering, raising cattle.
657 The Papago reservations have no timber worth cutting
313 other than mesquite trees for firewood. The Papago
316 reservations are the only lands in the U. S. reserved
464 for Indians which are open to mineral entry by out-
siders. Consequently mining claims are held by non-
Papagos, and profits go elsewhere. The only way the
Desert People can benefit from mines is by selling
their labor to the owners.

241 Farming is risky for the Desert People. Only two
311 communities have irrigated lands which can be depended
433 upon for crops. The rest must resort to age-old tech-
niques of flood farming where arroyos spread flood
waters from mountains. Spots that can be farmed this
way are not abundant. They are being decreased each
summer as gullies wash out fields and arroyos cover
them with sterile sand and gravel washed down from over-
grazed and eroding slopes above. Flood farming was
never more than a subsistence measure because of the
size limitation on fields, and frequent crop failures
from flooding out, frost, or drought. Today, there is
little incentive to gamble on a subsistence farm for any
Papago able to speak enough English to get a job. For
wage labor means a super-subsistence income, even if a
substandard one by Anglo lights.

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241 Probably every worker on the Papago reservations
433 has noticed the steady abandonment of flood farms. A-
464 mong Papago cotton pickers with these farms, less than
221 half apparently bother to plant any crops at all nowa-
days. Cotton picking starts just about the time fields
need weeding on the reserves, and picking season hits
its peak just about the time flood field crops are ready
to harvest. This conflict between flood-farm growing
season and wage-labor season in the cotton fields re-
sults in many Papago laborers not planting crops at all
on the reserves.

433 Another factor discouraging flood farm planting is
241 that these small plots produce only subsistence crops
461 at best, even if the gamble against drought and over-

15 families of 11 giving information had any crops at
all in 1950.

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[461] flooding and grasshoppers is won. This subsistence scale, risky enterprise cannot long compete against the surplus-over-subsistence earned in the cotton fields.

The crops Desert People working in the 1950 cotton harvest did plant on the reserves were not even on a subsistence scale. The few beans or squash, the patch of melons they actually planted were no more than a supplement at most.

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423 Clearly an important reason Papagos sell their labor is that a high proportion do not even have flood farms where they could try to farm if they wished to. Probably nearly half the Desert People picking cotton in 1950 had no fields.¹

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[32] For Papagos who cannot farm, there is still a possibility of raising cattle. However, xerophytic desert vegetation is not particularly well suited to fattening cattle--thorns don't make fat. Rainfall on reserve lands is very scanty, and good stands of grass are small and undependable.

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422 Among Papago cotton pickers of 1950, nearly half the families owned cattle.² However, some of them actually had only 1 cow, and the average number of head owned by each family was only a dozen.³

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[493] One difficulty for Papago cattlemen is that horses are kept by most families, taking up range that could support more beef animals. These horses are not especially good stock--no one raises horses for export. But the Desert People are still mainly in the pre-automotive age of transportation. If they don't walk, they generally must ride horseback or in a wagon pulled by horses. Over three-fourths of Papago cotton pickers in 1950 owned horses.⁴ And each of these families kept 6 or 7 horses.⁵ If it were not for an ordinance of the Papago Tribal Council restricting each family to not more than 10 head of horses, horse population of the reserved lands would undoubtedly be much higher.

139 families gave information. 20 had their own fields, or 51%. (Only 2 were in irrigated projects, 5%) Fathers of 3 younger men had flood fields, 8%. 30 41% had no flood fields in their extended family.

819 families of 40 questions owned cattle, 47%.

39 families giving information owned 96 head, averaging 12 per family.

431 families of 40 questioned owned horses, 77%.

621 families giving data owned 136, averaging 6.6 each.

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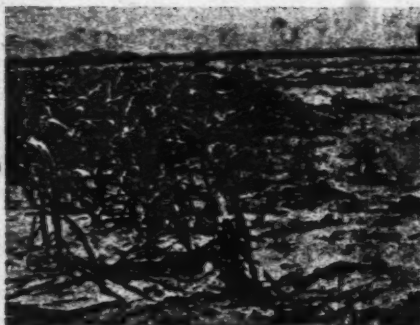
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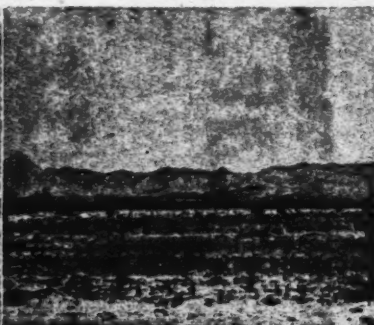
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The corn-bean-squash fields are eroding
and were always a gamble ...



wheat stands are thin ... and often
don't ripen ...

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the range is barren ...



so cattle graze on cactus.

so that machine harvesting was only half as prevalent in Pima as in Pinal County in 1950.

Men: Just before cotton picking began the leading Arizona farm paper estimated that 25,000 hand pickers would harvest the state cotton crop not picked by machines in some 96 days.¹ This estimate seems to have been only slightly too low.

PICKERS NEEDED

Yield—Pima county set what is probably a national county record yield in 1950, ginning 1,053 pounds of lint per acre.² As it takes 1,400 pounds of seed cotton to make a 479-pound bale of fiber,³ the fiber weighs 35.2% of the seed cotton brought in from the field. So 1,053 pounds of lint per acre means 3,079 pounds of seed cotton per acre production in Pima county.

Picking Speed—Labor cost studies of cotton picking showed the average amount of cotton picked per man day in Pinal county was 188 pounds in 1947, and 235 pounds in Graham county in 1949.⁴ Papago men interviewed in this study averaged 211 pounds per man per day, and women 150 pounds a day. If we assume that 200 pounds of cotton per picker per day is about average, we will agree with the farm paper mentioned.⁵ Dividing 200 pounds per man per day into the 3,079 pound per acre yield of Pima county shows the labor requirement in 1950 was 15,395 man days per acre.

Picking Time—The 11,200 acres of upland cotton⁶ in the county required 172,480 man days of harvesting at 15.4 man-days per acre. Farms in Pima county whose upland acreage was obtained in this study planted 6,692 $\frac{1}{2}$ acres, or 59.8% of the county total. They also planted 1,434 A. of American-Egyptian cotton, 21.4% of the upland acreage. If this proportion holds for the county, as seems likely, then approximately 2,400 acres of American-Egyptian cotton was planted in 1950. While the labor requirement for picking a pound of long staple cotton is about twice that for short,⁷ yield per acre drops to about half that of

¹Arizona Farmer, Aug. 5, 1950.

²Tucson Daily Citizen, Feb. 6, 1951.

³Barr, 1949, p. 6, Table 3.

⁴Ballantyne, 1950.

⁵Arizona Farmer, Aug. 5, 1950, states 7 man-days (misprinted hours) are standard per bale—1400 pounds.

⁶Barr, 1951, p. 17, Table 6.

⁷Figures for Papago pickers obtained in this study. Also, Arizona Farmer, Aug. 5, 1950.